TABLE 2.—*Average daily totals of solar radiation (direct+diffuse) received on a horizontal surface*

Week beginning	Washington	Madison	Lincoln	Chicago	New York	Fresno	Pittsburgh	Fairbanks	Twin Falls	La Jolla	Gainesville	Miami	New Orleans
	Gram calories per square centimeter												
1932	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*
July 2	500	502	563	454	528	720	435	449	712	290	678	606	369
July 9	591	618	636	587	653	721	572	459	516	479	588	601	385
July 16	465	590	595	559	527	715	500	357	580	406	440	577	358
July 23	554	571	527	597	559	697	529	442	578	457	439	550	322
	Departures from weekly normals												
July 2	−2	−29	−14	−5	+98	+36	−49	.....	+90	−128	+152	+44	.....
July 9	+99	+82	+60	+156	+230	+49	+78	.....	−76	+68	+76	+40	.....
July 16	−8	+71	+25	+125	+112	+63	+8	.....	−8	−36	−68	+10	.....
July 23	+64	+68	−17	+159	+150	+71	+27	.....	−5	+17	−71	−20	.....
	Accumulated departures on July 29, 1932												
	+3,332	+723	−1,391	+11,657	+14,114	+5,506	+3,374	.....	−6,505	+3,208	.....	+3,068	.....

TABLE 3.—*Solar radiation measurements, and determinations of atmospheric turbidity factor, β. Washington, D. C., July, 1932*

Date and solar hour angle	Solar altitude, *h.*	Air mass, *m.*	I_m	I_y	I_r	β	Blueness of sky	Atmospheric dust particles per cubic centimeter	Notes (skylight) polarization, P; clouds
July 5	° ′		*gr. cal.*	*gr. cal.*	*gr. cal.*				
4:47 a	27–52	2.12	1.200	*0.838*	0.661	0.040		672	
4:42 a	28–49	2.06	1.208	.849	*.669*	.045	5		P=64.
4:06 a	35–51	1.71	1.288	.902	*.694*	.045			
4:00 a	37–00	1.66	1.306	*.909*	.702	.045			Cumuli.
July 9									
5:28 a	19–49	2.92	0.905	*.608*	.570	.090		613	
5:24 a	20–34	2.82	.938	.617	*.575*	.085			
5:08 a	23–35	2.50	.987	.747	*.596*	.085			
5:04 a	24–23	2.42	1.001	*.752*	.602	.085			
3:50 a	38–43	1.60	1.180	.853	*.660*	.090	5		P=64.
3:46 a	39–28	1.56	1.183	*.859*	.666	.096			
2:42 a	51–50	1.27	1.273	.888	*.705*	.110			
2:38 a	52–34	1.26	1.270	*.891*	.709	.120			Fr. Cu.
July 11									
5:52 a	15–08	3.84	.853	.641	*.517*	.055		750	
5:46 a	16–16	3.56	.880	.648	*.523*	.065			Cirri.
5:21 a	21–00	2.78	.958	*.711*	.551	.115			
July 13									
4:55 a	25–48	2.29	.929	*.658*	.549	.105		777	Cirrus haze.
4:49 a	27–01	2.20	.917	.664	*.554*	.120	5		P=64.
3:29 a	42–32	1.48	1.150	*.764*	.648	.120			
3:26 a	43–04	1.46	1.162	.769	*.651*	.120			
0:55 a	69–18	1.07	1.350	.899	*.675*	.070			
0:50 a	69–50	1.06	1.310	*.900*	.676	.085			
3:22 p	43–49	1.44	1.265	*.881*	.678	.075			
3:26 p	43–05	1.46	1.248	.878	*.676*	.045			
4:11 p	34–19	1.77	1.156	.823	*.643*	.080			
4:14 p	33–45	1.80	1.170	*.822*	.642	.070			
July 25									
5:05 a	21–27	2.69	1.007	.762	*.604*	.070		538	
5:01 a	23–26	2.51	1.034	.766	*.607*	.070			
4:20 a	31–22	1.92	1.170	*.825*	.648	.065	4		P=59.
4:17 a	32–07	1.89	1.179	.828	*.649*	.060			
3:24 a	42–14	1.49	1.254	*.878*	.683	.080			
3:20 a	43–00	1.46	1.263	.881	*.685*	.085			
2:04 a	57–02	1.19	1.323	.923	*.728*	.105			
2:00 a	57–44	1.18	1.350	*.926*	.725	.095			Fr. Cu.
July 28									
5:32 a	17–03	3.39	.636	.504	*.424*	.130		773	Sky clearing; following clouds.
5:26 a	18–13	3.31	.630	*.507*	.430	.140			
4:42 a	26–44	2.21	.890	*.651*	.522	.120			
4:38 a	27–29	2.16	.888	.654	*.519*	.120	4		P=60.
3:09 a	44–42	1.42	1.019	*.726*	.587	.160			
3:05 a	45–27	1.39	1.046	.723	*.584*	.155			Cirri.
July 30									
5:09 a	21–11	2.75	1.090	*.811*	.639	.050		498	
4:47 a	25–26	2.33	1.162	*.823*	.657	.045			
4:42 a	26–23	2.25	1.168	.826	*.660*	.045	5		P=66.
3:36 a	39–16	1.58	1.327	.902	.713	.045			
3:33 a	39–51	1.56	1.293	*.905*	.716	.070			Cumuli.

POSITIONS AND AREAS OF SUN SPOTS

[Communicated by Capt. J. F. Hellweg, Superintendent United States Naval Observatory. Data furnished by Naval Observatory, in cooperation with Harvard, Yerkes, Perkins, and Mount Wilson Observatories. The differences of longitude are measured from central meridian, positive west. The north latitudes are plus. Areas are corrected for foreshortening and are expressed in millionths of sun's visible hemisphere. The total area, including spots and groups, is given for each day in the last column]

Date	Eastern standard civil time	Heliographic			Area		Total area for each day
		Diff. long.	Longitude	Latitude	Spot	Group	
1932	*H m*	°	°	°			
July 1 (Naval Observatory)	10 29	−54.0	281.8	−8.0	77	.....	.....
		+13.0	348.8	+12.0	.....	108	185
July 2 (Naval Observatory)	10 54	−57.0	265.4	−9.0	.....	15	.....
		−41.0	281.4	−9.0	77	.....	.....
		+27.0	349.4	+12.0	.....	62	154
July 3 (Naval Observatory)	12 33	−42.0	266.2	−9.0	.....	93	.....
		−28.0	280.2	−9.0	62	.....	155
July 4 (Mount Wilson)	12 15	−67.0	228.1	−12.0	9	.....	.....
		−29.0	266.1	−8.0	.....	153	.....
		−15.0	280.1	−8.0	34	.....	196
July 5 (Naval Observatory)	11 49	−14.0	268.1	−9.0	.....	77	.....
		−1.0	281.1	−9.0	15	.....	92
July 6 (Mount Wilson)	11 30	−2.0	267.0	−8.0	.....	120	120
July 7 (Naval Observatory)	13 2	+9.0	264.0	−8.0	15	.....	.....
		+17.0	272.0	−10.0	.....	93	108
July 8 (Naval Observatory)	11 49	+22.0	264.4	−8.0	15	.....	.....
		+30.0	272.4	−10.0	93	.....	108
July 9 (Naval Observatory)	14 19	+45.0	272.8	−9.0	123	.....	123
July 10 (Naval Observatory)	11 10	+58.0	274.3	−9.0	93	.....	93
July 11 (Naval Observatory)	12 14	+73.0	275.5	−9.0	93	.....	93
July 12 (Naval Observatory)	14 25	No spots			.....	.....	.....
July 13 (Naval Observatory)	12 28	−39.0	136.9	−11.0	.....	31	31
July 14 (Naval Observatory)	12 4	No spots			.....	.....	.....
July 15 (Mount Wilson)	18 0	No spots			.....	.....	.....
July 16 (Naval Observatory)	13 3	No spots			.....	.....	.....
July 17 (Naval Observatory)	12 34	No spots			.....	.....	.....
July 18 (Naval Observatory)	10 12	No spots			.....	.....	.....
July 19 (Naval Observatory)	13 3	No spots			.....	.....	.....
July 20 (Naval Observatory)	11 38	No spots			.....	.....	.....
July 21 (Mount Wilson)	16 45	−38.0	29.6	−2.0	.....	9	9
July 22 (Naval Observatory)	11 8	No spots			.....	.....	.....
July 23 (Naval Observatory)	10 30	No spots			.....	.....	.....
July 24 (Naval Observatory)	10 15	No spots			.....	.....	.....
July 25 (Naval Observatory)	13 15	No spots			.....	.....	.....
July 26 (Naval Observatory)	11 21	No spots			.....	.....	.....
July 27 (Naval Observatory)	11 42	−76.0	275.1	−9.0	185	.....	185
July 28 (Naval Observatory)	11 18	−63.0	275.1	−9.0	185	.....	185
July 29 (Naval Observatory)	11 20	−49.0	275.9	−9.0	216	.....	216
July 30 (Naval Observatory)	10 33	−39.0	273.1	−9.0	216	.....	216
July 31 (Naval Observatory)	10 29	−25.0	273.9	−9.0	216	.....	216
Mean daily area for July	.....	.....	.....	.....	.....	.....	080